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Labriola, Merete; Feveile, Helene; Christensen, Karl Bang; Bultmann, Ute; Lund, Thomas

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SHORT COMMUNICATION

The impact of job satisfaction on the risk of disability pension. A 15-year prospective study

MERETE LABRIOLA^{1,2}, HELENE FEVEILE³, KARL BANG CHRISTENSEN⁴,
UTE BÜLTMANN⁵ & THOMAS LUND¹

¹Danish National Centre for Social Research, Herluf Trolles Gade 11, DK-2100 Copenhagen, Denmark, ²PreSenter, International Research Institute of Stavanger (IRIS), Norway, ³National Research Centre for the Working Environment, Lerso Parkallé 105, DK-2100 Copenhagen, Denmark, ⁴Institute of Public Health, Faculty of Health Sciences, University of Copenhagen, Øster Farimagsgade 5 og. B, Postboks 2099, DK-1014, Copenhagen, Denmark, and ⁵University Medical Center Groningen, Antonius Deusinglaan 1, 9713 AV Groningen, The Netherlands

Abstract

Objectives: To identify the impact of job satisfaction on the risk of disability pension. **Methods:** A total of 8,338 employees were sampled from the total working population in Denmark. They were interviewed regarding age, gender, job satisfaction and health behaviour. Interview data were merged with national register data on granted disability pension for up to 15 years after baseline data collection. **Results:** The study found a statistically significant association between low job satisfaction and disability pension for women when adjusted for age, smoking status and BMI. **Conclusions:** Based on the results, investing in giving workers a satisfying work environment could be a low-cost way of improving employee health and prolonging labour market participation.

Key Words: Disability pension, job satisfaction, prospective study

Introduction

The share of the working-age population relying on disability and sickness benefits as their main source of income has tended to increase in many OECD (Organisation for Economic Co-operation and Development) countries [1]. As a result, a majority of countries are experiencing an increase in the costs of disability benefits as a percentage of Gross Domestic Product (GDP) and many OECD countries currently spend more on disability benefits than on unemployment benefits [2]. Spending on disability benefits amounted to 3–4% of GDP in the Nordic countries in 2006 [2]. Additionally, the workforce is rapidly ageing in these countries, and research on how to prevent people from leaving the labour market is becoming more important. Disability pension is a unique outcome related to labour market departure, and has been found to be strongly related to poor health [3–5].

Additionally, job satisfaction is found to be highly correlated to better health [6]. A satisfactory working environment is found to be at least as important for employee health as socioeconomic status [6]. However, although linked to employee health, the role of job satisfaction as a determinant of disability pension has not as far as we know been subject to research so far.

Methods

This study is based on a merger of work environment exposure information from the Danish Work Environment Cohort Study (DWECS) and information about granted disability pension from a national register of social transfer payment: the DREAM (a Danish acronym for the Register-based Evaluation of Marginalization) register [7].

DWECS has a split panel design – in 1990 a simple random sample consisting of people aged 18–59

Correspondence: Merete Labriola, Danish National Centre for Social Research, Herluf Trolles Gade 11, DK-2100 Copenhagen, Denmark.
Tel: +45 33480800. Fax: +45 33480833. E-mail: mee@sfi.dk

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years on 1 October 1990 was drawn from the Danish central civil register. People in this panel were interviewed again in 1995 and 2000 irrespective of participation in previous waves. In 1995 and 2000 additional panels were drawn to adjust for immigration and for the ageing of the 1990 panel. These panels consist of random samples of people who lived in Denmark on 1 October in the relevant year, but did not live in Denmark exactly five years before, and of random samples of people who were 18–22 years on 1 October in the relevant year. People in these additional panels were interviewed again in later waves irrespective of participation in the first wave. The size of each panel reflects the proportion of the relevant groups of the total population. In each wave, people who had been employees within two months prior to the interview were asked several questions regarding working conditions and occupational exposures. The 1990 sample consisted of 9,653 people, of which 8,664 (90%) participated; 5,701 of these were employees. The combined 1995 sample consisted of 10,702 people, of which 8,583 (80%) participated; 5,369 of these were employees. The combined 2000 sample consisted of 11,437 people, of which 8,583 (75%) participated; 5,366 of these were employees.

In the present study those participating in an interview were followed again from the time of the later interview with updated exposure and confounder information. Those not participating in later interviews were followed with the existing exposure and confounder information, but the age variable was updated. In total 8,475 employees, 4,223 men and 4,115 women under 60 years old with no missing data, are included in this study. Job satisfaction was measured using a single question “Are you satisfied with your work?” and the four response options were dichotomized: “High” (response options “To a high degree” and “To some degree”) and “Low” (response options “Only to a lesser degree” and “No, or only to a slight degree”) the question is from the Whitehall II study [8].

Body mass index (BMI) was calculated from self-reported information on weight and height and

categorized according to the standard classification of the National Institutes of Health (BMI < 18.5, underweight; BMI 18.5–24.9, normal; BMI 25–29.9, overweight; BMI \geq 30, obesity). Regarding smoking status the population was divided into heavy smokers (15 cigarettes or more per day), moderate smokers (less than 15 cigarettes per day), ex-smokers, and non-smokers.

General health (GH) from SF-36 questioner was measured using a single question: “How do you rate your health in general?” with five response options (“very good”, “good”, “fairly good”, “poor”, “very poor”) [9].

The Cox proportional hazards model was used to examine the impact of job satisfaction on future work disability pensioning. Participants were followed in the DREAM register from the time of first interview and were censored, at the time of their 60th birthday, emigration, death, or end of follow-up (18 June 2006). Analyses were adjusted for age, smoking status and BMI.

Results

A total of 4,115 women and 4,223 men without missing data who were under 60 at the time of interview were included in this study. The total follow-up time constituted 58,339.88 and 60,287.35 person years of risk time for women and men, respectively. During the follow-up time 453 (5.3 %) of these employees were granted disability pension: 188 men (41.5%) and 265 women (58.5%).

The study found a statistically significant association between low job satisfaction and disability pension for women when adjusted for age, smoking status and BMI.

Table I shows hazard ratios for disability pension and 95% confidence intervals for each gender. Analyses are adjusted for age, smoking status, and body mass index.

Further adjusting for general health rendered the effect insignificant, but health could be a step on the causal pathway between low job satisfaction and disability.

Table I. The impact of job satisfaction on the risk of disability pension: Hazard ratios (HR) and 95% confidence intervals.

	Risk time (yrs)	Events	HR ^a (95% CI)	HR ^b (95% CI)
Women				
Low job satisfaction	20,548.42	107	1.40 (1.10–1.79)	1.43 (1.11–1.83)
High job satisfaction	37,791.46	158	1.00 -	1.00 -
Men				
Low job satisfaction	20,879.02	69	1.22 (0.91–1.65)	1.20 (0.88–1.62)
High job satisfaction	39,408.33	119	1.00 -	1.00 -

^aAdjusted for age. ^bAdjusted for age, smoking status and BMI.

Conclusion

The study found significant effects of low job satisfaction and disability pension for women when adjusted for age, smoking status and BMI. The results showed that both men and women had a higher risk of disability pension when they experience low job satisfaction. For women other psychosocial workplace factors have been found to be associated with higher rate of disability pension if the women reported low job security, or low social support at work [3].

Krause et al. found both for men and women that psychosocial workplace factors, mental job strain, and job dissatisfaction were significantly associated with the incidence of disability retirement [10].

The strong associations found between workplace factors and the incidence of disability retirement link the problem of disability retirement to the problem of poor work conditions [10]. The results suggest for women that low job satisfaction is a strong independent risk factor for future disability pension regardless of age, smoking status and BMI.

It is possible that low job satisfaction is an intermediate step in a pathway leading from poor general health to disability pension. Also, low job satisfaction can cause poor well-being and health [6], which in turn can lead to disability pensioning. Given this close interrelation between general health and job satisfaction one could consider adjusting for general health as an overcorrection.

Based on the results, investing in giving workers a satisfying work environment could be a low-cost way of improving employees' health and prolonging their participation in the labour market.

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